

REMARKS

The application has been reviewed in light of the Office Action dated November 3, 2003. Claims 1, 3-9, 11-18, 20-25 and 45-48 are pending in this application, with claims 1, 7, 9, 17, 18, 24 and 45-48 being in independent form. By the present Amendment, claims 1, 7, 9, 17, 18, 24 and 45-48 have been amended. It is submitted that no new matter has been added and no new issues have been raised by the present Amendment.

Claims 1, 3-5, 7, 9, 11-13, 18, 20-21, 24, 45, 47 and 48 were rejected under 35 U.S.C. §103(a) as allegedly obvious in view U.S. patent No. 5,710,591 to Bruno et al. in view of Cohen et al, IEEE 1993, "Virtual gain for audio windows." Claims 6, 14-16 and 23 were rejected under 35 U.S.C. §103(a) as allegedly obvious in view of U.S. patent No. 4,360,827 to Braun in view of Cohen et al., and further in view of U.S. patent No. 5,764,750 to Chau et al. Claims 8, 17, 25 and 46 were rejected under 35 U.S.C. §103(a) as allegedly obvious in view of Bruno et al. and Cohen et al. and further in view of U.S. patent No. 5,864,816 to Everett.

Independent claim 1 relates to an audio conference server for enabling an application program to provide multi-point, weight-controllable audio conferencing. The audio conference server comprises means for managing at least one audio conference, the at least one audio conference comprising a plurality of audio clients, means for receiving audio data from said plurality of audio clients and means for mixing said audio data to provide spatialized audio data to the plurality of audio clients. The mixing means includes means for providing distance-based attenuation according to sound decay characteristics, at least one sound decay characteristic being assigned to each audio client from a plurality of different sound decay characteristics, each different sound decay characteristic providing a different volume/distance relationship and the mixing means results in mixed audio data. The sound decay characteristic may take into account decay characteristics according to the sound's behavior. The audio

conference server also provides means for delivering the mixed audio data to the plurality of audio clients

Bruno et al, as understood by Applicant, relates to a method and apparatus for recording and indexing audio information exchanged during an audio conference call or video, audio and data information exchanged during a multimedia conference. Voice activated switching functionality of a multipoint control unit provides a video signal, which is input into the multipoint control unit from a workstation from which an audio signal is detected, to each of the other workstations in the conference. A workstation or participant-identification signal is generated by the multipoint control unit and stored with the audio signal and video information.

As the Examiner pointed out, Bruno et al. does not teach or suggests a mixer for audio data. The Examiner believes that Cohen et al. discloses this means.

Cohen et al., as understood by Applicant, relates to audio windowing at a frontend, or user interface, to an audio system with a spatial sound backend. As understood by Applicant, virtual gain can capture the effects of distance between source and sink. However, Cohen et al. clearly indicates that rather than adhering strictly to a pure hyperbolic, or inverse, proportionality, the usual gain $\propto 1/\text{distance}$ relation is extended to achieve a “predetermined falloff across the room”, with the “desired behavior” being illustrated in Figure 3 of Cohen et al.

The examiner contends that the sound decay characteristics presently disclosed by the Applicant is comparable to the distance dependent-gain in Cohen et al. Cohen et al. describes a *virtual gain*, or perceived loudness, that is size-dependant, position-dependant, distance-dependant and direction-dependant (Cohen et al. 86-88).

The present disclosure uses sound decay characteristics which may include distance dependant gain. In the present disclosure, these features are often referred to as “distance-

based attenuation of sound". However, sound decay characteristics of the present disclosure may also take into account "decay characteristics according to the sound's behavior" (e.g., see page 6, line 26-28). According to embodiments of the present disclosure, this feature allows for *changing* the distance-based attenuation of sound based on *energy* of the sound wherein when "the sound is a low-energy sound, such as a wind chime, the sound will decay quickly. If the sound is a high-energy sound, such as a waterfall, the sound will decay slowly" (e.g., see page 7, lines 1-7). Such taking into sound decay characteristics according to the sound's behavior is **not** taught or suggested in Bruno et al. taken with or without Cohen et al.

Accordingly, Applicant respectfully submits independent claim 1 is patentable over the cited art.

Independent claims 9, 18, 45 and 47 are believed to be patentable over the cited art for at least similar reasons.

Everett is not believed to supply any of the elements missing from Bruno et al. and Cohen et al. Accordingly, independent claims 17 and 46 are believed to be patentable over the art of record for at least similar reasons.

Accordingly, Applicant respectfully submits that the independent claims are patentable over the cited art for at least one or more of the above-mentioned reasons.

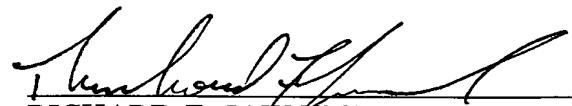
The Office is hereby authorized to charge any additional fees which may be required in connection with this Request and to credit any overpayment to our Deposit Account No. 03-3125.

If an additional petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Entry of this Request and allowance of this application are respectfully requested.

Respectfully submitted,



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